Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Density Problems**

**Show your work in the designated space.**

**Write your answers with the appropriate significant figures and units.**

1. Calculate the density of an object that has a mass of 22 grams and a volume of 10. mL.
2. Calculate the volume of an object that has a mass of 19 grams and a density of 12 g/mL.
3. Calculate the mass of an object that has a density of 20 g/mL and a volume of 5.00 mL.
4. Calculate the density of a liquid in a beaker. The beaker has a mass of 15.7 grams when empty. The beaker plus an unknown liquid has a mass of 22.5 grams. What is the density of the liquid if its volume is 10.0 mL?
5. Calculate the density of a piece of metal. The rectangular piece of solid metal has dimensions of 2.3 cm tall by 4.3 cm long by 2.3 cm wide. The unidentified metal has a mass of 22.248 grams.
6. In the boxes (all the same volume) below the dark circles represent particles of matter (all the same mass).
   1. Which box below has the greatest density? Explain how you know.
   2. Which box below has the smallest density? Explain how you know.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | http://www.glenbrook.k12.il.us/gbssci/team/density1.gif |  | http://www.glenbrook.k12.il.us/gbssci/team/density2.gif |  | http://www.glenbrook.k12.il.us/gbssci/team/density3.gif |  | http://www.glenbrook.k12.il.us/gbssci/team/density4.gif |

**1 2 3 4**